Stoppelaere’s house
rehabilitation & reuse
Training centre for digital recording and archiving

TAREK WALY CENTER
ARCHITECTURE AND HERITAGE
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Stoppelaere's House Rehabilitation & Reuse
Training Centre For Digital Recording And Archiving
Luxor - Egypt
2017

As part Of
Theban Necropolis Preservation Initiative

In Cooperation With
Factum Foundation
University Of Basel

Submitted To
The Ministry Of Antiquities

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2017

References and sources
• All maps are based on Google earth
• Dig houses photos in page(9): http://www.t3wy.nl
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STOPPELAERE HOUSE OVERVIEW AFTER REHABILITATION 56
Heritage conservation witnessed tremendous development in techniques of "scanning", providing us with high resolution digital recording, assisting in the preservation of important monuments and works of art. Using scanning techniques and having a high-resolution digital recording of heritage sites in electronic forms will help scholars. In the same time, it will open new dimensions for those interested in preserving archaeological/heritage sites, especially those that suffer from severe damage as a result of mass tourism. Using high resolution scanning in Egypt is from the imperatives of the next stage, preserving Egyptian archaeological/heritage sites requires tremendous effort in recording and documenting considering the fast deterioration suffered by many of those sites, which resulted in shutting down some of the important sites which adversely affected both scholars and tourists.

In its work in Theban Necropolis Preservation Initiative, Factum Foundation has developed significant innovations in both recording technologies and material processes that have resulted in dramatic advances in recording and re-creating objects. It is now possible to move to the next phase, recording and re-creating in facsimile the tombs of Seti I and Nefertari. Both of these tombs are closed to the public. The aim is to reopen them in facsimile form within the context of carefully designed exhibitions and with an emphasis on the reasons for their continued importance. At the same time the tourist visits to these facsimiles will generate revenues and provide funding to protect the originals and to pay for the documentation and preservation of other sites in Egypt that are less famous but not less important.

The work will provide the high-resolution documentation that will be essential to monitor the condition of the tombs. This is essential in the preservation of our heritage in an age of mass tourism. The Factum Foundation has focused on ensuring the costs to do the recording and fabrication are reduced to a minimum so they can be covered from ticket prices.
Factum Foundation will transfer technology and skills to the local team in Luxor – providing all the equipment necessary to establish one of the most advanced workshops in the world based on its raising the necessary funding from sponsors. Technology transfer has been at the heart of the relationship with the SCA.

The hope is that, with such a wealth of cultural heritage in Egypt from Prepharaonic times to the present day, a practical workshop of this kind will grow and develop. As a result it will not only preserve what we already know but the application of technology mixed with human skill will lead to new discoveries about the past and in doing so secure the future for both cultural heritage and the local community.

The first phase of the project was successfully opened to public in 2015

The current phase of the Theban Necropolis Preservation Initiative work started in May 2016 and will run until it has achieved its core objectives. These are:

• The complete recording of the tomb of Seti I
• The rehabilitation and reuse of Stoppelaere as the 3D Scanning, Archiving and Training Centre in Stoppelaere House
• The creation of a visitor centre where the facsimiles are made at a standard that is unmatched worldwide
STOPPELAERE HOUSE OVERVIEW

Stoppelaere house is believed to be built around 1950 by the Egyptian architect Hassan Fathy for Alexander Stoppelaere, Chief restorer of the department of Antiquities at this time. The house was meant to be a guest house for the department of antiquities and the headquarters/apartment of chief restorer Alexander Stoppelaere.

Stoppelaere House Surrounding Urban fabric

Thebes a world heritage site:
The house was built on the west bank at Luxor, within the boundaries of Thebes, the capital of Egypt during the Middle and New Kingdom. Famous with the temples and palaces at Karnak and Luxor, and the necropolises of the Valley of the Kings and the Valley of the Queens, Thebes is a striking testimony to Egyptian civilization at its peak. Thebes with its Necropolis were registered as a world heritage site in 1979.

New Gourna village
Stoppelaere house is also located near another inspiring unique site: New Gourna Village. It was built between 1946 and 1952 by Hassan Fathy and recently had been nominated to be registered as (a world heritage site) Stoppelaere house is believed to be built right after new Gourna village and by the same Egyptian architect: Hassan Fathy (1900-1989).
Stopplaere house
Built 1950
By Hassan Fathy

Gourna village
Built 1948
By Hassan Fathy

Stopplaere house Surrounding urban fabric - New Gourna village
Dig houses
From the early 19th century, Thebes had attracted archaeologists from all over the world. Archaeologists began inhabit Luxor, it is not confirmed when the first dig house was built but it is likely to be Gardner Wilkinson rest house in the west bank—demolished in 1890. Due to many factors, Most of those houses were built with local materials using traditional techniques, most of them were built with mud brick, for example, Somers Clarke-vii 1906, al-Kab, Howard Carter 1924. ...
Many of those dig houses were demolished or cannot be traced. But still a number of the dig houses are still there in Luxor used as expedition houses, or reused in other propose and some are just standing there suffering from neglect. Like Stoppelaere house.

<table>
<thead>
<tr>
<th>The house</th>
<th>Construction date</th>
<th>Current status</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Gardner Wilkinson - West Bank</td>
<td>1800s</td>
<td>Demolished in 1890</td>
</tr>
<tr>
<td>2 Cook I- West Bank</td>
<td>1800s</td>
<td>Demolished 1893</td>
</tr>
<tr>
<td>3 Insinger - East Bank</td>
<td>1888</td>
<td>Demolished 1960</td>
</tr>
<tr>
<td>4 Castle Carter I&quot; - West Bank</td>
<td>1890</td>
<td>SCA property</td>
</tr>
<tr>
<td>5 Cook II - West Bank</td>
<td>1898</td>
<td>Demolished 2006</td>
</tr>
<tr>
<td>6 De Garis Davies - West Bank</td>
<td>1904</td>
<td>SCA property</td>
</tr>
<tr>
<td>7 Naville - West Bank</td>
<td>1904</td>
<td>Demolished 1930</td>
</tr>
<tr>
<td>8 Somers Clarke - West Bank</td>
<td>1906</td>
<td>University of Leuven dig house</td>
</tr>
<tr>
<td>9 Theodore Davis - West Bank</td>
<td>1906</td>
<td>SCA property</td>
</tr>
<tr>
<td>10 Chicago House I- West Bank</td>
<td>1908</td>
<td>Marsam Hotel</td>
</tr>
<tr>
<td>11 Castle Carter II - West Bank</td>
<td>1910</td>
<td>Carter’s Museum</td>
</tr>
<tr>
<td>12 Metropolitan House - West Bank</td>
<td>1912</td>
<td>Polish Egyptian Mission dig house</td>
</tr>
<tr>
<td>13 Chicago House II - West Bank</td>
<td>1935</td>
<td>Oriental Institute of the University of Chicago</td>
</tr>
<tr>
<td>14 Legrain - West Bank</td>
<td>1942</td>
<td>Demolished 2008</td>
</tr>
<tr>
<td>15 Stoppelaere house - West Bank</td>
<td>1950</td>
<td>SCA property</td>
</tr>
<tr>
<td>16 Italian mission - West Bank</td>
<td>1970</td>
<td>Marsam Hotel</td>
</tr>
<tr>
<td>17 Waseda - West Bank</td>
<td>1976</td>
<td>Japanese Archaeological Expedition Dig house</td>
</tr>
<tr>
<td>18 German Expedition- West Bank</td>
<td>1978</td>
<td>DAIK dig house</td>
</tr>
<tr>
<td>19 French Expedition - West Bank</td>
<td>Unknown</td>
<td>Christian Leblanc Dig house</td>
</tr>
<tr>
<td>20 Beit Canada - East Bank</td>
<td>Unknown</td>
<td>SCA property</td>
</tr>
<tr>
<td>21 Jackie - East Bank</td>
<td>Unknown</td>
<td>French dig house</td>
</tr>
<tr>
<td>22 CFEETK Village &quot;II&quot; - East Bank</td>
<td>Unknown</td>
<td>Le Centre Franco-Égyptien d'étude Dig house</td>
</tr>
<tr>
<td>23 CFEETK Village &quot;I&quot; - East Bank</td>
<td>Unknown</td>
<td>Demolished</td>
</tr>
<tr>
<td>24 Legrain’s - East Bank</td>
<td>Unknown</td>
<td>Demolished in 2006</td>
</tr>
<tr>
<td>25 French Expedition - West Bank</td>
<td>Unknown</td>
<td>Centre national de la recherche scientifique.</td>
</tr>
<tr>
<td>26 Bernard Bruyere - West Bank</td>
<td>Unknown</td>
<td>IFAO Dig house</td>
</tr>
</tbody>
</table>
Stopplaere house
Surrounding Urban fabric
Thebes, a world heritage site

Waseda house
Carter's house
De Garis Davies

Metropolitan house

Stopplaere House Rehabilitation and Reuse
There is not enough information about Chronology of Use of the house, or accurate documentation of any previous interventions & Early views. Yet some evidences indicates that temporary inhabitancy of the house and that many physical interventions took place anonymously along the history of the house. The only documentation to the house took place in the year 2000 by Theban Mapping project and AUC, proposing to restore the house - the proposal were not applied but its architectural survey indicates that the house were deserted since 1977. The observations about the condition of the house identifies the existence of many deterioration aspects.

- Stoppelaere house Architectural Drawings Surveyed in 2000 By: Theban Mapping Project & AUC
• Stoppelaere house Architectural Drawings Surveyed in 2000 By : Theban Mapping Project & AUC
• Stoppelaere house Architectural Drawings Surveyed in 2000 By : Theban Mapping Project & AUC
Recent examination of the few early photos of the house verses the current status showed signs of many interventions. And even more were revealed along with careful inspections. Some of Those interventions can explain the condition of the house. For example :

• Some elements were added: wooden fence at the front court, steel door seems to be installed later than the fence
• Applying electrical system improperly damaged most of the vaults and domes.
• Adding extra bathrooms with poor sewerage system, there are three waste disposal chambers are visible around the house corresponding to the three locations where water is used.
• A High water tank and ground water tank with poor plumbing resulted in a constant water leak caused observable wall cracks shown in previous photos
• Two metallic cistern is installed to supply water. with poor plumbing resulted in a constant water leak to the underground soil. A limited settlement took place and threatened the safety of the house.
• Extra red brick walls were added
• Some windows were opened, some were closed, some wooden windows were installed
• Layers of cement plaster were applied in some parts of the house and signs of cracks repairs are observable inside and outside the house
• Signs of paint in the kitchen unknown when it was applied.
• A history of the existence of soft scape and planting inside the open courts and outside the house which seems to cause underground water
• The lack of maintenance severely affected both the mud brick and the plaster layers, and which gave most of the walls, domes and vaults critical cracks.
• Early and recent photos shows the High water tank and water leak caused observable wall cracks
Early and recent photos show the history of the softscape and planting inside the open courts and outside the house, which seems to have helped causing underground water.
Early and recent photos show: electrical system, poor sewerage system, extra red brick walls, crack repairs and different signs of interventions and use of Stoppelaere house.
The house provides evidence for Fathy’s mastery of forms resulting from the expression of mud brick vaulting techniques, and contains many architectural details that are characteristic of his work.

It is unfortunate that the Stoppelaere House, had been unused for many decades as it represents one of Hassan Fathy’s few surviving works from the early period of his activity.

Actually, Stoppelaere House was designed to house both a site office and a private residence for the archaeological director. It is divided into two by a central courtyard, thus assuring privacy for both areas. Its positioning at the top of a cliff gives the house a commanding presence.

Before the house was actually built, a series of preliminary drawings and sketches were made, until the current layout was drawn. No final drawing for this house was found, and the sketches does not completely match the current layout, that refers to either the house was modified during the construction phase or latter interventions took place changing some of the original design aspects.

- Stoppelaere house Early sketches by Hassan Fathy
• Stoppelaere’s house architectural plan showing the original space uses - Before rehabilitation
STOPPELAERE HOUSE PHYSICAL SURVEY AND ASSESSMENT
A limited settlement can be observable in the west side of the house causing some cracks in the bearing walls and floorings in this part of the house. It was probably caused by the continuous water leak of the poor plumping of the house. Yet the foundation were not affected. But further safety interventions is needed to secure the foundations from any future damages.
The bearing walls of the house were made of lime stone foundation topped with mud brick wall, 25 to 60 cm thick, covered with mud plaster. Most of the lime stone parts were intact but the brick walls had many deep cracks and the plaster layer were totally damaged.
• Samples of Stoppelaere's house walls status before rehabilitation
Domes, vaults, intersected vaults were used in roofing the house that kind of roofing could be fragile and sensitive to unplanned interventions. So many of the vaults were severely affected by the electricity wiring buried inside them later. In addition to limited use to wooden roof covered with mud brick that was also affected by the wood bugs that turned the main structure of the roof into a very fragile and weak one.
• Samples of Stoppelaere's house domes status before rehabilitation
• Samples of Stoppelaere’s house vaults’ status before rehabilitation
Building Materials Status

Mud Brick / Plaster

• Samples of Stoppelaere's house mud brick / mud plaster status before rehabilitation
Building Materials status

Wood

• Samples of Stoppelaere's house wooden elements status before rehabilitation
Building Materials status

Flooring Tiles

- Samples of Stoppelaere's house floorings status before rehabilitation
• Samples of Stoppelaere’s house MEP systems status before rehabilitation
Assessment Of The house

The house has been exposed to various conditions that resulted in severe deterioration in its structure that were easily observable by the naked eye, but more were not detectable until further surveys were applied.

• The lack of adequate maintenance, exposure to different Climate conditions, and previous improper interventions were behind the bad condition of the house ... for example:

• Applying electrical system improperly damaged most of the vaults and domes.

• Adding extra bathrooms with poor sewerage system, a high water tank and ground water tank with poor plumbing resulted in a constant water leak to the underground soil. A limited settlement in took place and threatened the safety of the house.

• The lack of maintenance severely affected both the mud brick and the plaster layers, and which gave most of the walls, domes and vaults critical cracks.

• Most of the wooden work in the house suffered from the attacks of wood bugs that made the wood highly friable.

The general condition of the house showed the urgent need of a complete restoration to most of the structural elements and furnishings. New MEP systems were also needed.
STOPPELAERE HOUSE PHYSICAL INTERVENTIONS
1- Structural support interventions
Due to the status of the house, many interventions were needed in order to rehabilitate the building to be reused as a Training centre for digital recording and archiving. Structural interventions were essential. Starting with treating the existing deterioration of the main structure, down to preventing future deterioration. In addition to finishing restoration, new MEP systems were applied to adapt the house with the new uses, Exterior elevation restoration and landscape redesign. All the intervention took thoroughly into consideration providing the contemporary needs in parallel with preserving the architectural values of the house. The restoration was made using the same techniques and recycling natural materials previously used in building the house. With limited modifications in its technical specification to enhance its quality. Almost all interventions were implemented locally by workers and craftsmen from Luxor.
• Structural belt to support Stoppelaere's house and the walls built to treat the soil settlement beside the house
Recycling Original Materials Used In Interventions

• Mud brick recycling and plaster making in site
• Stoppelaere's house walls restoration
• Stoppelaere’s house domes restoration
Vaults Restoration

• Plan and section showing the extra wall height that were built to support the cracked vault

• The extra wall height that were built to support the cracked vault
• Samples of vaults restoration
Wooden Structure Replacement

- Sample of the wooden structure re-placement
- Before rehabilitation
Arches Support

- Arches support works
• Arches support works
Removing Previous Interventions

- Entrance fence and gate
- High water tank and ground water tank
- Extra storage behind the house
- Extra wooden sheds
STOPPELAERE HOUSE PHYSICAL INTERVENTIONS

2- Reuse interventions
New Space Uses

- **Electronics workshop**: All scanner building, Programming, testing and fixing takes place at Stoppelaere house.
- **Server Room**: Servers located and acts as a safe room.
- **Multi-purpose room**: Lectures, workshops, and seminars will take place in this space; it will act as the heart of the training center.
- **Office Space**: Data Processing Training and practice with waiting area.
- **Archive Room**: Archive to all printed information.
- **Admin Room**: Accountant and Legal advisor (Admin).
- **Reception desk**: Secretary with storage cabinets.
- **Basement office**: Photography studio and Data processing.

- Stoppelaere's house new space uses
Openings Modifications

• Samples of Openings design modifications

• Before rehabilitation
Replacement Of Finishes

- Finishes replacement samples
Replacement Of Finishes
Replacement Of Doors And Windows
Old windows Replaced with Sound, Burglar, Dust Proof, High Sealing, Energy Saving windows

Old windows Replaced with new wood windows

Natural lighting openings in the domes replaced with hand made glass windows
• Adding extra bathroom
Exterior Landscape
STOPPELAERE HOUSE OVERVIEW AFTER REHABILITATION
- Openings modifications
Samples of Stoppelaere's house interior finishings and furniture
• Samples of Stoppelaere's house exterior elevations restoration
STOPPELAERE HOUSE REHABILITATION AND REUSE

• Tarek Waly center Cairo Team

• Tarek Waly centre Luxor Team working on Stoppelaere house